WHAT IS CLAIMED IS:

1. A device comprising:

an I/O connection adapted to communicate an I/O value and having a configurable attribute;

a configuration memory adapted to store a first attribute value that configures the configurable attribute;

a diagnostic interface adapted to communicate the I/O value; and

a diagnostic controller having a first mode adapted to communicate the I/O value between the I/O connection and the diagnostic interface and having a second mode adapted to receive the first attribute value from the diagnostic interface and to store the received first attribute value in the configuration memory, thereby configuring the configurable attribute of the I/O connection.

2. The device of Claim 1, wherein the second mode is further adapted to read a second attribute value previously stored in the configuration memory and to send the second attribute value to the diagnostic interface, wherein the second attribute value previously configured the configurable attribute.

3. The device of Claim 1, wherein the configuration memory is further adapted to store a second attribute value that configures a second configurable attribute; and wherein the second mode of the diagnostic controller does not store the second attribute value in the configuration memory, wherein the second configurable attribute is unassociated with the I/O connection.

4. The device of Claim 3, wherein the configuration memory comprises a I/O configuration memory adapted to store the first attribute value and a core configuration memory adapted to store the second configurable attribute value.

5. The device of Claim 2, wherein the I/O configuration memory comprises a shift register adapted to shift in and store the first attribute value and to shift out and output the second attribute value.

6. The device of Claim 1, wherein the diagnostic interface comprises a serial data connection.

7. The device of Claim 6, wherein the serial data connection is adapted to receive a second I/O value from an I/O connection of a second device and to send the second I/O value to a third device.

8. The device of Claim 7, wherein the diagnostic interface is a JTAG interface.

9. The device of Claim 1, further comprising:

a configuration interface adapted to receive a set of attribute values for a set of configurable attributes of the device from a configuration device; and

a configuration controller adapted to store the set of attribute values in the configuration memory, thereby configuring the set of configurable attributes of the device.

10. The device of Claim 9, wherein the set of attribute values include a second attribute value configuring the configurable attribute of the I/O connection;

11. The device of Claim 9, wherein the second mode of the diagnostic controller disables the configuration controller.

12. The device of Claim 9, wherein the configuration controller is further adapted to receive a signal and to retrieve the set of attribute values in response to the signal.

13. The device of Claim 12, wherein the signal is received from a source external to the device.

14. The device of Claim 12, wherein the signal is received from the diagnostic controller.

15. The device of Claim 14, wherein the diagnostic controller further includes a third mode for receiving a configuration instruction from the diagnostic interface and generating the signal in response to the configuration instruction.

16. The device of Claim 15, wherein the diagnostic controller further includes a pulse generator for generating the signal.

17. The device of Claim 1, wherein the device is an integrated circuit.

18. The device of Claim 1, wherein the device is a programmable logic device.

19. The device of Claim 1, further comprising:

a system having a plurality of devices connected with the device.

20. The device of Claim 19, wherein the system further includes a configuration device.

21. The device of Claim 1, further comprising:

a circuit board having a plurality of additional devices mounted thereto, such that the device is connected with at least one other device on the circuit board.

22. The device of Claim 21, wherein the circuit board further includes a configuration device.

23. A device comprising:

an I/O connection adapted to communicate an I/O value;

a set of configurable attributes defining the function of the device;

a configuration memory adapted to store the set of attribute values configuring the configurable attributes;

a configuration interface adapted to receive the set of attribute values from a configuration device; and

a configuration controller adapted to store in the configuration memory the set of attribute values received by the configuration interface in response to a configuration signal, thereby configuring the set of configurable attributes of the device;

a diagnostic interface adapted to communicate the I/O value of the I/O connection; and

a diagnostic controller having a first mode adapted to communicate the I/O value between the I/O connection and the diagnostic interface and having a second mode adapted to send the configuration signal to the configuration controller.

24. The device of Claim 23, wherein the diagnostic controller is further adapted to receive the configuration instruction from the diagnostic interface and to send the

configuration signal to the configuration controller in response to the configuration instruction.

25. The device of Claim 23, wherein the diagnostic controller further includes a pulse generator for generating the configuration signal.

26. The device of Claim 23, wherein the configuration controller is further adapted to receive the configuration signal from a source external to the device.

27. The device of Claim 23, wherein the device is an integrated circuit.

28. The device of Claim 23, wherein the device is a programmable logic device.

29. A method for configuring an attribute of an I/O connection of a reconfigurable device comprising:

receiving a diagnostic instruction from a diagnostic interface;

communicating an I/O value from the I/O connection to the diagnostic interface when the diagnostic instruction is of a first type;

receiving an attribute value associated with the attribute of the I/O connection from the diagnostic interface when the diagnostic instruction is of a second type; and

storing the attribute value in a configuration memory, thereby configuring the I/O connection, when the diagnostic instruction is of the second type.

30. The method of Claim 29, wherein storing the attribute value comprises:

shifting the attribute value into a shift register;

shifting a previously stored attribute value of the I/O connection out of the shift register; and

communicating the previously stored attribute value with the diagnostic interface.

31. The method of Claim 29, wherein the diagnostic interface comprises a serial data connection.

32. The method of Claim 29, wherein the diagnostic interface is a JTAG interface.

33. The method of Claim 29, further comprising:

receiving a configuration signal via the diagnostic interface;

retrieving a set of attribute values defining the function of the reconfigurable device from a configuration device via a configuration interface in response to the configuration signal; and

storing the set of attribute values in the configuration memory, thereby defining the function of the reconfigurable device.

34. The method of Claim 33, wherein the set of attribute values includes a second attribute value associated with the attribute of the I/O connection.

35. The method of Claim 33, wherein receiving the configuration signal, retrieving the set of attribute values, and storing the set of attribute values are disabled when the diagnostic instruction is of the second type.

36. A system having a plurality of devices, the system comprising:

a reconfiguration device having a stored set of device attributes;

a reconfigurable device having a set of configurable attributes and adapted to receive the stored set of device attributes, thereby configuring the reconfigurable device; and

a diagnostic interface adapted to interface with the reconfigurable device and with an external testing device, thereby communicating an I/O value associated with an I/O connection of the reconfigurable device to the external testing device;

wherein the reconfigurable device includes a configuration controller adapted to initiate the reception of the stored set of device attributes in response to a configuration signal, and a diagnostic controller having a first mode adapted to communicate the I/O value between the I/O connection and the diagnostic interface and having a second mode adapted to send the configuration signal to the configuration controller.

37. The system of Claim 36, wherein the diagnostic controller is further adapted to receive from the diagnostic interface a second set of device attributes adapted to configure the reconfigurable device.

38. The system of Claim 36, wherein the diagnostic controller is further adapted to send the configuration signal to the configuration controller in response to a configuration instruction received from the diagnostic interface.

39. The system of Claim 36, wherein the configuration controller is further adapted to receive the configuration signal from a source external to the device.

40. The system of Claim 36, wherein the diagnostic interface is a JTAG interface.